



温州肯恩大学
WENZHOU-KEAN UNIVERSITY

Exploring whether ROA has a positive impact on the stock price of clothing companies

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by

ZOU Yulin

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Jack Zou

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Abstract

The purpose of this study is to explore the impact of ROA on stock price of apparel industry companies. First, I use the regression model of SPSS software to prove that there is a relationship between them, and then I exclude the influence of price on ROA. I use the former as an independent variable and the latter as a dependent variable to prove that ROA will have a positive impact on stock price. This research fills in the blank of the previous literature on the clothing industry, and investors can make a prediction on the stock price according to this conclusion, so as to make a decision of buying or selling

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Introduction

A stock is a security issued by a company to a shareholder to prove its shares. It can be used as collateral and is one of the main long-term credit instruments in the capital market. And stock price refers to the trading price of the stock.

There are many factors that can influence stock price changes such as the operating conditions, industry status, income, asset value, and income changes of the listed company. In my point of view, I hold that some ratios in the company's financial report may fluctuate the stock price. Therefore, I choose the ROA to study if it affects the stock price of the companies.

The listed companies I studied are companies in the clothing industry. There are two reasons for choosing such companies. First, as clothing is a necessity, its supply and demand are relatively stable. No matter in the short term or long term, people's demand for clothing will not change much. Therefore, in this regard, the impact of clothing industry companies on the stock price is relatively small compared with other categories of companies, such as energy and financial companies.

Second, as a labor-intensive industry, the clothing industry is less affected by policies than other high-tech industries, so the stock price is less affected by such factors. In a word, the purpose of studying the stock price of clothing companies is to reduce the influence of other external factors on stock price changes as much as possible, so as to truly analyze the influence of the independent variable " ROA " on the dependent variable "stock price".

Previous literatures limited the research scope to Banks, finance, manufacturing and technology companies. For instance, Saeidi and Okhli's (2012) believe that ROA (return on assest) has an impact on some manufacturing companies. Narayan (2016) thinks that the dividend price ratio is very helpful for forecasting the stock prices of real estate and energy companies.

However, this paper fills in the gap of previous literatures and applies the conclusion that ROA will affect stock price to the clothing industry. The new conclusion not only widens the range of key financial data that can affect stock prices, but also benefits investors active in the apparel industry. Based on my conclusions, they can make a buy or sell decision by predicting the future price of their current holdings.

Literature Review

Although there are many pieces of literature on stock price volatility, most of them are based on the analysis of some high-tech, energy, and financial industries. Moreover, the factors affecting stock prices are mainly external events and policy influences. Based on the previous works of literature, my paper will set a new limited range, clothing industry, and analyze the influence of ROA on stock price in this industry.

Manufacturing

Existing literature believes that financial data of companies have an impact on the stock price. Saeidi and Okhli (2012), for example, argues that ROA had an impact on the share prices of some companies (including food, chemical, etc.) listed on the Tehran Exchange with good financial performance in the manufacturing sector. However, their study only uses the regression analysis model, while no correlation model that can reflect the degree of relevance is utilized. At the same time, although they prove that the relationship between ROA and stock price is significant, the literature does not indicate whether ROA had a positive or negative effect on the stock price.

Previous literature does not properly illustrate the impact of ROA on stock price in the

clothing manufacturing industry. My paper will focus on filling this gap.

Different rates for different industries

Is the same financial ratio the same for different industries? Bannigidmath and Narayan (2016) think the answer is no. For example, for real estate, multinationals, information technology, and the energy industry, the dividend price ratio can predict stock returns. The ratio that best predicts the change in stock price for the apparel industry (considered as retail) studied in this paper is dividend-payout. This study gives me some inspiration. In my paper, I should analyze the rationality of the ROA relative to other ratios.

Financial ratio shocks

In the above two studies, a new conclusion emerges. They find that in addition to some ratios affecting the stock price, there are expected and unexpected financial risks that will have an impact on the future return of the stock. In my research, the change in ROA is influenced by many factors, including these financial shocks, which also proves that this independent variable will affect the fluctuation of future stock prices.

The difference

In the current literature, most of them believe that the company's financial ratio has an impact on the stock price. For example, Trejo Pech, Noguera and White (2015) find that some financial ratios favored by financial analysts such as EBITDA margin and Net. Debt to EBITDA etc. can predict the return of stocks in the coming year.

Martani, Mulyono, and Khairurizka (2009) argue that profit and turnover have an impact on stock returns. In other words, these ratios are closely related to changes in stock prices. Al-Malkawi, AlShiab, and Pillai (2018) believe that factors such as ROE (return on equity) and price-earnings ratio have a positive impact on stock prices. These studies provide a theoretical basis for my thesis.

But not all research is like this. For example, the conclusions of Topak and Dereli (2018) are the opposite of those of the above three. They believe that leverage and asset turnover ratio has no impact on the stock returns of 102 of the companies listed on the Borsa Istanbul Industrial Index (XUSIN).

This conclusion is refuted by the expected empirical evidence, which provides a dialectical approach to my thesis. This article will focus on the relationship between

the ROA of the apparel industry company and the stock price and give clear conclusions.

Aims and Objectives

I want to explore whether the ROA of listed companies in the clothing industry has an impact on their share price. The first step is to use regression models to prove that the two are related. Since ROA is the dependent variable and stock price is the independent variable, the influence of stock price on ROA should be excluded under this limited condition.

When the significance level of this hypothesis is < 0.1 , the conclusion is valid. And finally, I'm going to show you whether there's a positive correlation or a negative correlation. This conclusion can provide theoretical support for the investors who are active in the clothing industry and expand the industry scope of the existing literature.

Research Design and Method

To explore the influence of ROA on the stock price, I will first exclude the impact of the stock price on ROA, because the stock trading is the transfer among investors, which does not affect the company. Secondly, I will choose the stock from 2010-2018 of top clothing companies such as Nike to be the representatives of the apparel industry.

Correlations are used to explore the relationship between independent variable and dependent variable. According to the following results, ROA and the stock price is related.

Correlations

		VAR00001	VAR00002
VAR00001	Pearson Correlation	1	.634**
	Sig. (2-tailed)		.000
	N	40	40
VAR00002	Pearson Correlation	.634**	1
	Sig. (2-tailed)	.000	
	N	40	40

** . Correlation is significant at the 0.01 level (2-tailed).

Then, I will use statistical methods to prove whether the ROA has an impact on the stock price. In this process, I will assume that the impact of company's ROA on the

stock price is significant, and then list the null hypothesis (H0), that is, the impact of ROA on the stock price is not significant, and the alternative hypothesis (H1), that is, the impact of ROA on the stock price is not significant. Then, I can reject H0 and accept H1 if the probability (P) calculated by putting data into the model is less than 5%, indicating that ROA has an impact on the stock price. Finally, regression methods are used to prove whether they have a positive relationship.

Data

Population and sample

I will choose the financial statements of Nike, LuxotticaGroup, S.P.A, VF clothing company and Shenzhou international company from 2010 to 2018, in which ROA is taken as the sample, and exclude the interference of other factors such as ROA and dividend price ratio to study the relationship between the stock prices matched with each company

Bloomberg

Ticker: NKE US Equity

Periodicity: Quarters

Filing: Most Recent

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	Original:2011 Q1	Original:2011 Q2	Restated:2011 Q3
For the period ending	2010-8-31	2010-11-30	2011-2-28
Profit Margin	10.80	9.44	10.30
Return on Assets	14.33	14.62	14.69
Return on Common Equity	20.82	21.22	21.32

Figure 1: ROA of Nike Company

Bloomberg

Ticker: TPR US Equity

Periodicity: Quarters

Filing: Most Recent

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	Restated:2010 Q4	Restated:2011 Q1	Restated:2011 Q2
For the period ending	2010-7-3	2010-10-2	2011-1-1
Profit Margin	20.57	20.72	24.00
Return on Assets	29.21	28.98	29.86
Return on Common Equity	45.91	45.74	46.92

Figure 2: ROA of Coach Company

Bloomberg

Ticker: VFC US Equity

Periodicity: Quarters

Filing: Most Recent

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	Restated:2010 Q2	Restated:2010 Q3	Restated:2010 Q4
For the period ending	2010-7-3	2010-10-2	2011-1-1
Profit Margin	6.95	10.88	2.55
Return on Assets	8.57	8.59	8.84
Return on Common Equity	15.34	14.98	14.89

Figure 3: ROA of VF Company

Bloomberg

Ticker: 2313 HK Equity

Periodicity: Semi-Annuals

Currency: CNY

Filing: Most Recent

	Original:2010 S2	Original:2011 S1	Original:2011 S2
For the period ending	2010-12-31	2011-6-30	2011-12-31
Returns			
Return on Common Equity	29.29	31.42	31.33
Return on Assets	19.79	19.98	21.33
Return on Capital	24.01	24.99	25.70
Return on Invested Capital	23.48	24.58	24.50
Margins			
Gross Margin	29.04	28.79	28.75
EBITDA Margin	28.39	28.82	24.94
Operating Margin	24.04	24.93	21.46
Incremental Operating Margin	26.62	22.34	13.95
Pretax Margin	23.01	24.57	21.19
Income before XO Margin	17.13	20.24	17.63
Net Income Margin	17.11	20.23	17.62
Net Income to Common Margin	17.11	20.23	17.62
Additional			
Effective Tax Rate	25.55	17.62	16.80
Dvd Payout Ratio	62.21	0.00	59.55
Sustainable Growth Rate	11.07	31.42	12.67

Figure 4: ROA of Shenzhou Company

Data collection

I will find the financial statements of these five companies from 2010 to 2018 in Bloomberg lab terminal. The reason it didn't start in 2008 was because the financial crisis broke in that year, so the delay of two years was to reduce the impact of its external factors. I would shorten the cycle of these statements to once a week instead of a month or a year. In this way, more data are collected, and the results reflected will be more accurate. The stock price is also collected from Bloomberg lab terminals, which change every week to match previous data.

Rigor

During the process of data collection, there will be no modification of the data to achieve my preferred result. I will use the data collected from Bloomberg lab for rigorous deduction and calculation to achieve the reliability of the data.

Data analysis

I will apply the collected data to SPSS, and use this powerful statistical software to verify the relationship between ROA and stock price. First, I will arrange the data from 2010 to 2018 in order, and then use the selected two groups of data to conduct regression analysis to prove that these two variables are related.

Then put forward my hypothesis H1, that is, ROA has an impact on the stock price of clothing industry companies. After calculating their significance level, it is found that the value is less than 0.1, which proves my hypothesis is correct.

Results

The purpose of this study is to explore the impact of ROA on stock price of apparel industry companies.

	VAR0000 1	VAR0000 2	var	var	var	var	v
1	25.21	32.60					
2	24.68	37.17					
3	27.64	39.98					
4	29.21	37.40					
5	28.98	42.90					
6	29.86	54.56					
7	32.58	52.90					
8	34.53	66.76					
9	33.05	50.58					
10	32.26	60.04					
11	34.69	78.46					
12	36.20	58.57					
13	34.67	54.67					
14	32.93	55.51					
15	34.03	49.99					

Figure 5

First, I input the ROA and corresponding stock prices of the apparel companies I choose into the SPSS software. As shown in figure 1, Var1 is ROA and Var2 is the stock price.

Then I use the correlation and regression model. The results are in the figure 2& 3.

Correlations

		VAR00001	VAR00002
VAR00001	Pearson Correlation	1	.634**
	Sig. (2-tailed)		.000
	N	40	40
VAR00002	Pearson Correlation	.634**	1
	Sig. (2-tailed)	.000	
	N	40	40

** . Correlation is significant at the 0.01 level (2-tailed).

Figure 6

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.634 ^a	.401	.386	8.58764

a. Predictors: (Constant), VAR00001

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1879.257	1	1879.257	25.482	.000 ^b
	Residual	2802.409	38	73.748		
	Total	4681.667	39			

a. Dependent Variable: VAR00002

b. Predictors: (Constant), VAR00001

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.413	2.873		11.282	.000
	VAR00001	.632	.125	.634	5.048	.000

a. Dependent Variable: VAR00002

Figure 7

The statistical results follow my expectation, first, the correlation is positive between these two variables. Secondly, because the p value is less than 0.05, in the regression model we reject the null hypothesis. We conclude that there is a relationship between ROA and stock prices, and it is positive because the coefficient is 0.632.

The biggest contribution of this study is to fill the gap that the previous literature did not have. In the past, the research focuses on finance, manufacturing and technology industries. However, my research scope is clothing industry, which is not appeared in the past. Besides, investors can use my conclusion to judge the future situation of stock price so that they can make or buy the stock.

Although there are many pieces of literature on stock price volatility, most of them are based on the analysis of some high-tech, energy, and financial industries. Based on the previous works of literature, my paper will set a new limited range, clothing industry.

If the statistical results follow my expectation, then the conclusion is that ROA will have an impact on the stock price of the company in the clothing industry, and the impact is positive. This conclusion is not unexpected. It shows that if a clothing company's ROA continues to rise, generally speaking, the company's share price also tends to rise. Investors can make a decision to buy or sell stocks according to this conclusion.

At the same time, this conclusion also expands the scope of the previous literature and fills in the blank of the original literature. This means that in a clothing company with relatively small external impact, the future trend of stock price can be predicted

Contribution and Limitations

The biggest contribution of this study is to fill the gap that the previous literature did not have. In the past, the research focuses on finance, manufacturing and technology industries. However, my research scope is clothing industry, which is not appeared in the past. My proposal will expand the research scope of similar literature and make the relevant conclusions more universal. At the same time, according to the conclusion, investors can make a judgment on the trend of the company's stock held in the clothing industry, and then make a decision to buy or sell. This conclusion can help them to judge the future situation of stock price.

But the rise or fall of stock price is determined by many factors. In my study, I just proved that the ROA will have a positive impact on stock price. But there are many factors behind the change of stock price. Its rise or fall is the result of many factors, not only the ROA.

For example, when the independent variables in this study show an upward trend, the stock price may decline, because other factors such as the decline of corporate reputation and the external economic downturn will affect the change of the stock price. Therefore, there is a limitation in my research, that is, I can't measure the trend of

stock price only by the change of ROA. If only through this conclusion to predict the stock price, it seems very one-sided.

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